

Assessment Brief



Public Schools of North Carolina • State Board of Education • North Carolina Department of Public Instruction • Mark Johnson, State Superintendent

North Carolina Testing Program Calculator Requirements

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This brief is available on the North Carolina Department of Public Instruction (NCDPI) Accountability website, www.ncpublicschools.org/accountability/testing.

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When applicable, all students must have access to calculators that meet the minimum calculator requirements during the administration of North Carolina assessments. Students are to use calculators that are similar to those used during classroom instruction within the current school year. Students who regularly use more than one calculator during classroom instructional activities may be permitted to use more than one calculator during the test administration. Students may use calculators with more than the minimum requirements (e.g., fraction keys, graphing capabilities), provided that those additional features are not prohibited. However, school systems should be cautioned that the use of these features without prior training may confuse students and adversely affect their performance during the test administration. The minimum calculator requirement for grade 8 mathematics is a scientific calculator. Students may use a scientific calculator and/or a graphing calculator during the grade 8 mathematics test.

An online embedded calculator is available for students to use on all online mathematics and science tests that require calculator use. The online embedded calculator meets the minimum calculator requirement for the specific assessment (a scientific calculator and graphing calculator are both available for grade 8 mathematics). Students have the option to use the online embedded calculator, a hand-held calculator, or both. If students have not had sufficient practice using the online calculator, a hand-held calculator should be available during the test administration.

The North Carolina version of the online calculators are accessible here:

- Four Function Calculator www.desmos.com/testing/northcarolina/fourfunction
- Scientific Calculator www.desmos.com/testing/northcarolina/scientific
- Graphing Calculator www.desmos.com/testing/northcarolina/graphing

All online calculators are free to use and are accessible for vision-impaired and blind students. For more information, visit www.desmos.com/accessibility.

Restrictions: Students are not allowed to share calculators during test administrations nor are they allowed to use calculators on state assessments with the following functionalities:

- Calculators with wireless communication technologies (e.g., Bluetooth, Infrared, and IEEE 802.11)
- Calculators with built-in computer algebraic systems (CAS) capable of doing symbolic algebra (e.g., factoring, expanding, or simplifying given variable output) or symbolic calculus

- Pocket organizers
- Handheld, tablet, or laptop/notebook computers, unless specifically approved
- Calculators built into cell phones or other electronic communication devices
(Note: Cell phones/electronic devices are not permitted during state test administrations.)
- Calculators in pen input/stylus-driven devices (e.g., palm-based devices, tablets, laptops/notebooks, and computers)
- Calculators requiring access to an electrical outlet (except for students needing special accommodations)
- Calculators that make noises of any kind that cannot be disabled (except for students needing special accommodations)
- Calculators that use a QWERTY (typewriter-style) keyboard
- Calculators that use paper tape

The following list includes calculators not permitted for use on North Carolina tests. The list is not all-inclusive. If the local education agency (LEA)/charter school test coordinator believes calculator brands other than those listed below may need to be restricted, then he or she must contact the Regional Accountability Coordinator (RAC) for confirmation before excluding them.

- Texas Instruments: All model numbers that begin with TI-89 or TI-92, Voyage 200, Nspire CAS (TI-Nspire CX CAS and TI-Nspire CAS with touchpad)
- Hewlett-Packard: HP 48GII and all models that begin with HP 40G, HP 49G, or HP 50G
- Casio: Algebra fx 2.0, ClassPad 300, and all models that begin with CFX-9970G
- Virtual calculators, downloaded calculators, and calculator apps
- Calculators accessible by desktop, laptop, or other devices (e.g., iPad and Chromebook)

Texas Instruments TI-Nspire calculators without CAS are allowed only in the following two cases: (1) with the TI-84 Plus keypad and (2) with the Nspire keypad using operating system 1.7 or higher with both “limit geometry functions” and “disable function grab and move” invoked in Press-to-Test mode.

Before beginning and immediately following a test administration that requires calculator use, the test administrator or principal’s designee must clear the calculator memory and all applications (including preloaded) from all calculators that will be used during each administration of the test. Only the test administrator or principal’s designee is allowed to carry out this procedure. Procedures for clearing the calculator memory (including standard memory, ROM, and Flash ROM) that are appropriate for the specific calculator model(s) must be used. The test administrator or principal’s designee should use caution when clearing calculators because different calculators require different procedures. In some cases, the calculator’s memory and applications are cleared or disabled and in others they are deleted (permanently removed).

Because the memory and all applications must be cleared and all data stored in the calculator erased, students who wish to use their own calculators must be told before the test day to back up all data and programs that they wish to save. After the test administration, the test administrator or principal’s designee should enable the memory and applications of the students’ calculators.

Comprehensive clearing procedures for calculators most frequently used in the state testing program are provided for test administrators in each *Assessment Guide*. In addition, major calculator vendors have support teams who assist test administrators in clearing calculators. Vendor contact information can be obtained through the school system test coordinator.

Note: As curricula and technology change, the policy concerning calculator requirements on North Carolina assessments will be reevaluated.

The minimum calculator requirements for each state test that requires calculator use are listed in the following chart. Additional features (e.g., graphing features) that are not prohibited are allowed but are not required. The North Carolina Department of Public Instruction does not endorse any brand of calculator.

Test	Minimum (At Least) Calculator Requirements
End-of-Grade Tests Mathematics Grades 3–5	Four-function calculator with memory key
End-of-Grade Tests Mathematics Grades 6–8	Scientific calculator ¹
NCEXTEND1 Mathematics Grades 6–8 NC Math 1 Grade 10	Four-function calculator with memory key
NCEXTEND1 Mathematics Grade 11	Four-function calculator with memory key
End-of-Course NC Math 1	Graphing calculator
End-of-Course NC Math 3	Graphing calculator
College and Career Readiness Alternate Grade 10	Four-function calculator with memory key
College and Career Readiness Alternate Grade 11	Four-function calculator with memory key
North Carolina Final Exam NC Math 2	Graphing calculator
North Carolina Final Exam Advanced Functions and Modeling	Graphing calculator
North Carolina Final Exam Discrete Mathematics	Graphing calculator
North Carolina Final Exam Precalculus	Graphing calculator
North Carolina Final Exam Physical Science	Scientific calculator ¹
North Carolina Final Exam Chemistry	Scientific calculator ¹
North Carolina Final Exam Physics	Scientific calculator ¹

¹Any four-function calculator with a square root function, y^x , $\pi(\pi)$, and algebraic logic

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